

CLAIMS

1. A method for detecting an emitter signal using at least one dwell, wherein a dwell indicates a frequency range, an amount of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a detecting method, the method comprising acts of:
- a) selecting a set of emitters, the set of emitters including at least one emitter;
 - b) determining a plurality of receiver detecting methods available to detect the set of emitters;
 - 10 c) selecting a first detecting method of the plurality of detecting methods;
 - d) creating a first scan strategy, the first scan strategy having a first set of dwells, wherein a bandwidth of the first detecting method is used to determine a subset of the plurality of emitters whose frequency range at least partially overlaps a frequency range of the first set of dwells; and
 - 15 e) determining a first cost of the first scan strategy.
2. The method of claim 1, further comprising acts of:
- f) selecting a second detecting method of the plurality of detecting methods;
 - g) creating a second scan strategy, the scan strategy having a second set of dwells,
 - 20 wherein a bandwidth of the second detecting method is used to determine a subset of the plurality of emitters whose frequency range at least partially overlaps a frequency range of the second set of dwells; and
 - h) determining a second cost of the second scan strategy.
3. The method of claim 2, further comprising acts of:
- i) comparing the first cost to the second cost;
 - j) selecting the first scan strategy if the first cost is less than the second cost; and
 - k) selecting the second scan strategy if the second cost is less than the first cost.
4. The method of claim 3, wherein the act j) further comprises executing the first scan strategy on a receiver system to detect signals of the set of emitters.
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5. The method of claim 4, wherein the act k) further comprises executing the second scan strategy on a received system to detect signals of the set emitters.
6. The method of claim 2, wherein the second detecting method has a greater
5 sensitivity than the first detecting method.
7. The method of claim 1, wherein the first set of dwells includes at least one dwell.
8. The method of claim 2, wherein the second set of dwells includes at least one
10 dwell.
9. The method of claim 1, wherein the act d) further comprises an act of comparing the cost of using the first detecting method as the detecting method for the first set of dwells with the cost of using each of the other detecting methods of the plurality of
15 detecting methods as the detecting method for the first set of dwells.
10. The method of claim 2, wherein the act g) further comprises an act of comparing the cost of using the second detecting method as the detecting method for the first set of dwells with the cost of using each of the other detecting methods of the plurality of
20 detecting methods as the having an associated sensitivity greater than an associated sensitivity of the second detecting method as the detecting method for the second set of dwells.
11. A method for detecting an emitter signal using at least one dwell, wherein a dwell
25 indicates a frequency range, an amount of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a receiver detecting method, the method comprising acts of:
- a) creating a first dwell to detect signals from an emitter the first dwell using a first detecting method and indicating a first frequency range, the first frequency range
30 overlapping at least a portion of the frequency range of the emitter;
 - b) determining a first cost of the first dwell;

c) creating a set of second dwells to detect signals from the emitter, each of the set of second dwells using a second detecting method, the set of second dwells having a combined second frequency range overlapping the portion of the frequency range of the emitter;

5 d) determining a second cost of the set of second dwells; and

 e) comparing the first cost and the second cost.

12. The method of claim 11, further comprising an act of:

 f) selecting the first set of dwells for use in a scan strategy if the first cost is less
10 than the second cost and selecting the second set of dwells for use in the scan strategy if
 the second cost is less than the first cost.

13. The method of claim 12, further comprising an act of:

 g) executing the scan strategy including the dwells selected in act f) in a receiver
15 system.

14. The method of claim 11, wherein the act b) further comprises acts of:

 b1) determining a respective cost of each respective dwell of the first set of dwells;
 and

20 b2) summing the cost respective costs of each of the first set of dwells to generate
 the first cost.

15. The method of claim 14, wherein the act b1) further comprises determining the
 respective cost for each respective dwell by dividing a respective dwell duration
25 associated with each respective dwell by a respective revisit time associated with each
 respective dwell.

16. The method of claim 11, wherein the act d) further comprises acts of:

 d1) determining a respective cost of each respective dwell of the second set of
30 dwells; and

 d2) summing the cost respective costs of each of the second set of dwells to
 generate the second cost.

17. The method of claim 16, wherein the act d1) further comprises determining the respective cost for each respective dwell by dividing a respective dwell duration associated with each respective dwell by a respective revisit time associated with each
5 respective dwell.

18. A receiver system for detecting an emitter signal using at least one dwell, wherein a dwell indicates a frequency range, an amount of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a receiver detecting
10 method, the receiver system comprising:

a memory having stored therein a scan strategy, the scan strategy being created by a system that executes acts of:

- a) selecting a set of emitters, the set of emitters including at least one emitter;
 - 15 b) determining a plurality of receiver detecting methods available to detect the set of emitters;
 - c) selecting a first detecting method of the plurality of detecting methods;
 - d) creating a first scan strategy, the first scan strategy having a first set of dwells, wherein a bandwidth of the first detecting method is used to determine a subset of
20 the plurality of emitters whose frequency range at least partially overlaps a frequency range of the first set of dwells; and
 - e) determining a first cost of the first scan strategy; and
- a controller that configures receiver hardware to execute the scan strategy.

25 19. The receiver system of claim 18, further comprising an interface adapted to receive a scan strategy from the system.

20. The receiver system of claim 18, wherein the receiver is mounted in a vehicle.